

COMMISSION ON TIME AND LEARNING

Y 4.L 11/4:S.HRG. 103-762

Commission on Time and Learning, S....

HEARING BEFORE THE SUBCOMMITTEE ON EDUCATION, ARTS AND HUMANITIES OF THE COMMITTEE ON LABOR AND HUMAN RESOURCES UNITED STATES SENATE ONE HUNDRED THIRD CONGRESS

SECOND SESSION

ON

TO EXAMINE THE RECOMMENDATIONS AND FINDINGS OF THE COMMISSION ON TIME AND LEARNING AS CONTAINED IN THEIR RECENT REPORT, "PRISONERS OF TIME," WHICH ADDRESSES THE SCHOOL YEAR LENGTH AND CURRICULUM FOR OUR NATION'S SCHOOLS

SEPTEMBER 22, 1994

Printed for the use of the Committee on Labor and Human Resources



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COMMISSION ON TIME AND LEARNING

THURSDAY, SEPTEMBER 22, 1994

U.S. SENATE,

SUBCOMMITTEE ON EDUCATION, ARTS AND HUMANITIES,
OF THE COMMITTEE ON LABOR AND HUMAN RESOURCES,

Washington, DC.

The subcommittee met, pursuant to notice, at 9:35 a.m., in room SD-430, Dirksen Senate Office Building, Senator Jeff Bingaman, presiding.

Present: Senators Bingaman and Jeffords.

OPENING STATEMENT OF SENATOR BINGAMAN

Senator BINGAMAN [presiding]. Why don't we go ahead and get started, because we do have a time constraint today by virtue of the conference on the Elementary and Secondary Education Act which starts up at 11 o'clock, and I think some members are already engaged in work related to that.

This hearing is being held to elicit testimony concerning the recommendations of the National Education Commission on Time and Learning which was established pursuant to a bill that I sponsored in the 101st Congress.

In 1983, the report, "A Nation at Risk," stated that American students were spending less time on school work than their international counterparts, and that as a result they were lagging behind those other students. The commission that produced that report recommended that schools and legislatures consider 7-hour school days and 200 to 220-day school years.

I remember when I read that report and looked at my own State of New Mexico, where school lasts about 180 days, about 168 of those in actual instruction, it seemed to me this was an issue that deserved more attention.

In 1990, I introduced a bill entitled "The 200-Day School Year Study Act," which eventually became the legislation that established this commission. My hope was that the Federal commission could provide a focal point and leadership in the discussion on how to extend the time for learning for our children.

I am pleased that the report of the commission, "Prisoners of Time," which is an excellent report, provides that focus, and the Commission is providing leadership in moving to address this issue. My hope is that the commission's work will be taken up by the Department of Education and by the individual States, and that its recommendations will be implemented.

Thanks to the passage of "Goals 2000," we are now in the midst of developing national content standards for our students. The development of those standards makes the consideration of the time issue even more urgent. How are we to expect our young people to meet high standards if we do not provide adequate time for them to learn? I am very concerned that we are creating expectations for our children that they will not be able to meet because we have not given them the necessary time for instruction.

I am very pleased that the members of the commission have agreed to testify here today about their conclusions and recommendations. I am also pleased that representatives of the content groups involved in standard setting are also here to discuss the implications for student achievement which the present school day and school year have.

I am especially pleased, however, that we will have a chance to hear from some educators who have had actual experience with extended time for learning in their schools and who have wrestled with the financial and political problems that come with longer days or years.

This is not a simple issue, and one message of the report is that better learning may not simply be a matter of more hours or more days. Issues of technology, teacher development, and community involvement all come into play.

Dr. Goldberg was executive director of the commission which produced the 1983 report, "A Nation at Risk." His excellent work on that report has been widely recognized, and it is appropriate that he should also serve as executive director of this Commission on Time and Learning, since it was the recommendations of that earlier report that caused this commission to come into existence.

So I want to compliment the commission for the good work they have done and thank them for being here today. Let me just make a couple of requests.

We have to try to conclude the three panels by around 11 o'clock, so I would urge the witnesses to summarize their statements to the extent they can so we do have a little time for questions. And also, I will say that we will leave the record of this hearing open for another 2 weeks, and if anyone wishes to make comments, they can send those to my office or to the Labor and Human Resources Subcommittee on Education.

Now let us proceed, and I will introduce the first panel. Our first presenter today is Milton Goldberg, executive director of the National Education Commission on Time and Learning. With him is Denis Doyle, who is a distinguished commission member with a long history of involvement in efforts to improve education in this country, and Robert Wehling, who is the senior vice president of Procter & Gamble Company in Cincinnati, OH, and who has always had a very keen interest in improvements in education.

So, Dr. Goldberg, why don't you go ahead and begin?

STATEMENTS OF MILTON GOLDBERG, EXECUTIVE DIRECTOR, NATIONAL EDUCATION COMMISSION ON TIME AND LEARNING, WASHINGTON, DC; DENIS P. DOYLE, MEMBER, NATIONAL EDUCATION COMMISSION ON TIME AND LEARNING, AND SENIOR FELLOW, HUDSON INSTITUTE, CHEVY CHASE, MD; AND ROBERT L. WEHLING, SENIOR VICE PRESIDENT FOR PUBLIC AFFAIRS, THE PROCTER AND GAMBLE COMPANY, CINCINNATI, OH

Mr. GOLDBERG. Thank you very much, Senator, for this opportunity. I want to thank you on behalf of the commission for your role in creating this commission and for your continued support and participation during the 2 years that we worked so hard.

When our report was released in May, we sent copies of it to business leaders, State legislators, and to every school district in the country. And I am pleased to report to you today that the response to the report has been overwhelmingly positive, notwithstanding the difficulties of implementing some of its recommendations that you have pointed out.

We estimate that as of today, more than 2,000 articles about this report have appeared in newspapers and magazines in this country and in other countries around the world. As a matter of fact, I might tell you that just yesterday, Glamour Magazine had a short article about the report of the commission and has a poll for its readers about how they feel about the recommendations of the commission, and we look forward to what the readership of Glamour Magazine has to say about it.

Senator BINGAMAN. Thanks for mentioning that. I seldom get to my copy of Glamour, so I appreciate that.

Mr. GOLDBERG. I assure you Senator, it was shown to me; I did not buy it.

During our work, as you know, we travelled throughout the country. We met with educators, parents, students, researchers; we studied schools and programs on site; we worked with school officials in Japan and Germany to complete fact-finding visits to those countries, and we reviewed volumes of research about time and learning. And we saw people all over this country working very hard to improve their schools.

As you have pointed out, in "A Nation at Risk," we recommended that we pay particular attention to the time question, but the recommendations of that report have essentially gone unheeded where time was concerned.

What our report concludes is that our children and our teachers and the families of our children tend to be, where schools are concerned, at least, "prisoners of time."

The "Goals 2000: Educate America Act" offers our country, we believe, a precedent-shattering blueprint for educational improvement, and our report supports "Goals 2000." If I might quote what Secretary Riley said just a few days ago at the National Press Club, he said: "Educators should give special attention to the report of the National Commission on Time and Learning called 'Prisoners of Time,' which speaks directly to how time is being taken away from academics during the American school day." The secretary continued by saying, "We will not be able to be first in anything—math or science or any other subject, for that matter—

if only 41 percent of the school day is given over to the core academic subjects," which our report does point out.

The missing link, we believe, in the education reform movement is time. If we are to meet the national education goals, we must break the shackles of time from our schools. Schools of the future must make learning the priority—a clear and fixed goal—and time must become a flexible resource. It must be valued; it must not be wasted. The challenge is not to come up with a magical number of days and hours. The critical issue is how much time students and teachers need if we are to achieve the goals. In many cases, in many communities, for many, many children, that is going to mean more time.

Education research and simple observations demonstrate that children learn at different rates and in different ways. Yet we allocate time in our schools as if they were all alike.

In the past years, it has become evident that the more schools try to be equitable in allocating time, the more unfair the consequences. Proving equal time for students who need more time guarantees unequal results.

If we want to give every student equal opportunities to meet high academic standards, we have got to understand that some students will require unequal amounts of time. Those who need more time to learn should be accommodated while we also attend to the unique needs of the advanced and other students.

Finally, I should point out that the commission recognized that over the last generation, American life has changed profoundly. The family structure has changed. Our work force is different. Society is more diverse. Technology looms as a growing challenge, just as it provides us with enormous opportunities. Anxiety about crime is a concern in many communities. In these communities, when children are not with their families, the school is the best place to be.

Our schools cannot ignore these problems because they touch the lives of each and every one of our children. Schools should remain open to serve as centers for services that may be provided by other community agencies while also attending to the academic needs of the children.

But as we point out from page 1 to the final page of our report, learning is the bottom line. The 6-hour, 180-day school year should be relegated to museums—an exhibit from our educational past.

As our report concludes, "American students will have their best chance at success when they are no longer serving time, but when time is serving them."

Thank you, Senator. I will be happy to respond to your questions.

[The prepared statement of Mr. Goldberg may be found in the appendix.]

Senator BINGAMAN. Mr. Doyle, do you have some comments?

Mr. DOYLE. Yes, I do, and I can be mercifully brief, Senator Bingaman. I appreciate your generosity in inviting us to appear before you. It is a special pleasure 1 week before our service as commissioners comes to an end; we turn into pumpkins the 1st of October.

I am pleased to report to you that our 2-1/2 years of service have been productive and enlightening, and I know that my fellow commissioners and I share my enthusiasm for the work we were privileged to undertake at your invitation and direction.

May I also say that I am confident that our final report, "Prisoners of Time," has made an important contribution to the national debate about education reform and renewal. At the time the commission was created, most observers assumed that our principal concern would be the length of the school day and year. Now, to be sure, these issues are important, but more important by far is learning, and that became the focus of our deliberations. Indeed, we believe that our unique contribution to the national education debate has been to identify the missing puzzle piece to make time a variable and not a constant.

Historically, as you know, in the time of royal tutors, for example—Alexander with Aristotle—time was a variable. Teaching one on one, students could take whatever time they needed to master the subject at hand, just as we as adults do today. In fact, most of what we learn outside of school is not time-bound. We take the time we need to acquire mastery, whether it is a second language, a game like bridge or golf, or the intricacies of Robert's Rules of Order.

Only in the modern era—the era of mass education—has time become fixed. So many hours or days or weeks of study became the metric, not how much you learned. And as we all know, each of us learns at different rates at different times in our lives. At least we should expect our schools to reflect this simple truth.

To that end, I would like to make four uncomplicated recommendations to this committee about the future of time and learning, each reflecting a time-honored Federal role.

First, while it is appropriate that our service as commissioners come to an end next week, we have done our job, and it is time for us to move on. The work we began should not stop. The baton should be passed to the Department of Education, and future Federal education policies should be carefully crafted with the issue of time in sharp focus.

For example, the Federal Government should get its own house in order and make it clear that time can be a variable in its programs, most notably Chapter 1. Local schools should be free to run Chapter 1 programs after school or in the summer, not just as pull-out programs. Uncle Sam must be part of the solution, not part of the problem.

Second, to further this approach, a vigorous public information campaign should be launched by the Secretary to spread the word, and an electronic clearinghouse should be created to provide much-needed information for practitioners.

Third, to give some bite to Federal rhetoric, a United States Department of Education grants program should be established to underwrite bold initiatives for new time and learning configurations. These grants should support demonstrations which will model new uses of time and learning, rather than providing operating expenses, for which there will be, of course, no replacement funds at grants' end.

And fourth and finally, Federal flexibility, the clearinghouse and the grants program should be materially strengthened with a vigorous technical assistance effort for States and localities intent on reconfiguring time and learning.

It is clear that we know enough to act; what is needed now is vision, leadership, and strong encouragement to States and localities.

Let me close with an observation that emerged from our commission experience. I was struck by the fact that the most dramatic and interesting examples of new uses of time and learning came from small schools and school districts who did it on their own. In the best American tradition, they waited for no one, forged ahead, and set the pace for the Nation. A short, and necessarily incomplete list of schools, public and private, makes the point: Beacon Day School in Oakland, CA; Mooresville, NC; Murfreesboro, TN, the community from which our commission chairman hails; Buena Vista, VA; Leadville, CO; the Cornerstone School in Detroit, MI; New Stanley in Kansas city; Piscataquis Community High School in Guilford, ME, from which Commissioner Norman Higgins will address you briefly this morning.

What did these schools have in common besides size? Visionary leaders, men and women willing to take risks, to bend the rules, cut red tape, and not take anything for granted. They are the unsung heroes of American education reform.

In conclusion, I have submitted for your review and information a copy of an article I did for the Baltimore Sun last spring on this subject.

Mr. Chairman, I would like to thank you for the opportunity to appear before you, and on behalf of my fellow commissioners, thank you for the opportunity to serve the Nation in this important undertaking.

[The prepared statement of Mr. Doyle may be found in the appendix.]

Senator BINGAMAN. Mr. Wehling, why don't you go right ahead?

Mr. WEHLING. Thank you, Senator Bingaman.

I appreciate the opportunity to strongly endorse the findings and recommendations of this report, and I believe I speak for many others in the business community when I say that.

I see many analogies between successful business practices and what this report is recommending for our schools. In my own job, I have to produce high quality work on time, but I have substantial flexibility which allows me to do things like attend this hearing. I have access to my office, my technology and support personnel 24 hours a day, 7 days a week. It is this flexibility which enables me to combine education interests, children's issues and community affairs with a full plate of basic job responsibilities.

If this makes sense in business, why not in the schools, which are ultimately preparing our children for the world of work and for productive citizenship?

I would add that I think there are two conditions which exist in business, but which are not universally present in school systems, which are an essential prerequisite or foundation upon which the recommendations in this report must build.

The first relates to the fact that we are not using the present 180 days as well as we need to. Most students are not attending 180 days. In the workplace, everyone is expected to be at work every day on time. Regardless of the structure or length of the school day and school year, we must find a way to reinstate in parents and students and others in the community that attendance is not optional and that 4 days out of 5 is not good enough.

Similarly in business, we devote a very significant amount of time to the continued training and development of our people. We believe there simply must be a strong commitment to a sustaining, high quality professional development program in our schools. And again, I believe this is a prerequisite for the many fine recommendations in "Prisoners of Time" to succeed.

I have heard some critics of this report since it was issued say that it would be too costly to add to the school day or week or year. I go back and look at how we would look at this issue within Procter & Gamble. If we believed the data and findings in a report like this, the very first thing we would do is look at the cost of not implementing it, both short-term and long-term. I really believe, having read "Prisoners of Time" in some depth, that the costs of inaction on this report are completely unacceptable.

Therefore, I submit that we must implement these recommendations—not some of them, but all of them. The only questions we should ask ourselves are how long it will take, how creative we can be, and how much we can involve parents and communities in moving forward.

My greatest personal concern has to do with the expiration of the commission. I would urge Congress to monitor implementation on an ongoing basis and ask the Department of Education, the General Accounting Office and others for reports of progress on an annual basis from now until the year 2000.

Thank you.

Senator BINGAMAN. Thank you very much.

Let me say on your suggestions—each of you made some suggestions about things the Federal Government can do to try to see that this does not just wind up as a set of unimplemented recommendations, and I think that is really what we need to focus on at this point.

I think the idea of requiring an annual report of how we are doing is a good one. We have this national education goals panel, which does an annual report card on how well student performance is coming along, and maybe we need to look at ways to measure implementation of some of these recommendations included in that annual report.

I do not know if any of you have thought more about how we would go into the monitoring of progress in this area, or what the right things would be to monitor, but if any of you have comments on that, I would be interested in hearing them.

Mr. DOYLE. Well, the most direct thing would be to build on the Federal Government's experience in research development and data collection and institute an annual "time and learning audit," in the way we would do a management audit, and see what communities and school districts across the country are doing, and also build in some significant comparative information about what our

competitors are doing. This would be purely information, but it would be extremely valuable. In particular the kinds of charts we are able to bring to your attention, reviewing how few hours American youngsters go to academic study would be very, very important.

There is some preliminary evidence that in many school districts, the standards have in fact been raised, and youngsters are spending more time on demanding academic subjects, and we should have better information about that more readily available.

Senator BINGAMAN. Who would do that annual audit that you are talking about?

Mr. DOYLE. I suppose the Department of Education would be the—

Mr. GOLDBERG. I know that the National Center for Education Statistics of course gathers all kinds of data, and it might very well be part of some of their data collection activities. In the reorganization of the Office of Educational Research and Improvement that is now taking place, there are likely opportunities for data collection of this sort in addition to NCES. And of course, the goals panel that you have described is probably a very good idea, Senator.

Senator BINGAMAN. Well, I think we need to try to think through how to do that, and maybe there is still time to do something before the Congress adjourns this year. At any rate, I think it is a long-term undertaking, and I agree with all of your suggestions that the Federal Government needs to find some ways to go ahead and continue to push on these so that they do not just—we did the report in 1983, saying we should have a longer school year, and now we have done one in 1994, and I hate to have us do one in 2005, saying the same thing, which is unfortunately all too often the way things work around here.

Why don't we move on to the second panel. Thank you very much for being here.

Our second panel includes members of the education community. First, we have Robert Spillane, who is the superintendent of schools in Fairfax County, VA; then, we have Donna Hardy, who is the principal of New Stanley Elementary School in Kansas City, KS; and finally, we have Anna Marie Ulibarri, who is the principal of Emerson Elementary School in Albuquerque. Thank you all for being here. I appreciate it very much.

Mr. Spillane, please proceed, and thank you for coming.

**STATEMENTS OF ROBERT R. SPILLANE, SUPERINTENDENT,
FAIRFAX COUNTY PUBLIC SCHOOLS, FAIRFAX, VIRGINIA;
DONNA HARDY, PRINCIPAL, NEW STANLEY ELEMENTARY
SCHOOL, KANSAS CITY, KS; AND ANNA MARIE ULIBARRI,
PRINCIPAL, EMERSON ELEMENTARY SCHOOL, ALBUQUERQUE, NM**

Mr. SPILLANE. Thank you, Senator. I would like to summarize also and try to be brief.

The 1983 "A Nation at Risk" report that Milt Goldberg was executive director of I think continues to have long-time, profound impact on education, and I think the latest report in 1994, "Prisoners of Time," will have that same impact. I hope, however, that we will move much more quickly.

I believe in the report's integrity and its good sense, and if school systems throughout this country worked hard to implement the recommendations, we would achieve school improvements on an unprecedented scale.

What I am concerned about is that too many major reports hit the news for a few weeks, and people earnestly vow to act on it, and then the next report comes out, or we get distracted in our education concerns, without keeping our focus on the main thing.

There is a sign in my office in Fairfax County, so everyone has to know about it, and it says "The main thing is to keep the main thing the main thing." And the main thing is the academic mission of schools. We do so many other kinds of things, and the schedule gets crowded out, the academic subjects get crowded out by other kinds of issues and concerns.

So it is important that we all focus on the time issue in terms of the time that we perform our academic functions.

My hope is that we can break ourselves of the habit of diverting our attention and our energy and our limited resources every few years and will stay focused on the tough, the clear, and the unyielding truths of this report—that American students on average do spend less time than students in other countries studying the core academic subjects. And while no one is foolish to think that more is necessarily better, more instructional time—quality instructional time—is an indispensable element of raising the academic and achievement levels for all of our students.

This is not a unique commitment in American education to only those who can achieve, but the uniqueness of American education is that we provide each student, regardless of race, creed, nationality, and probably more importantly, socioeconomic status, with an excellent free public education, the promise of America—a free public education for all of our youngsters.

But even in high-achieving school systems like Fairfax, the expectations are limited by what is realistically possible within the constraints of a fixed clock and a fixed calendar. The curriculum has exploded in recent years, and the demands on schools have increased dramatically, and something has to give. And I would rather see more time than less learning.

For example, in 1987, we tried to increase instructional time for the elementary and secondary schools, and the result was a split decision. After long and very arduous debates, we did add a 7th period to our school day in the secondary school, but we lost a proposal to add to our elementary schedule.

We have indisputable evidence from costs, involvement and requirements now in Fairfax County that the difference between a youngster in 1988 taking a 4-year high-school course in Fairfax County and 1994 is the difference of 4 years versus 5 years; they have literally added the extra courses. And guess what the number one course enrollment became when we added the extra period? You guessed it; it was mathematics. And guess what the second one was? You guessed it; it was science. Youngsters are not taking the watered-down courses. As a matter of fact, some people are very surprised about how we are able to close the gap as we are doing between our minority students and our white population. Part of that is, simplistically, that there are no more consumer

mathematics courses or consumer science courses. Everyone takes the rigorous course.

So it is no surprise that our SAT scores go up 26 points over 2 years in mathematics, or that the gap between minority students and white students is narrowing, because minority students are required to take the same courses that everyone is supposed to be taking.

But the objections from the parents and the teachers to lengthening the day in the elementary school were a loss of planning time for teachers; that the daily schedule and increased teaching time did not increase sales. That is going to be an issue. The objections from parents were disruption of scheduled nonschool activities, private lessons, team practices, and sometimes, excessive academic pressure on young children, although I do emphasize "sometimes."

We will be struggling with these issues this year, because we formed another citizen task force initiated by the school board and spurred on by "Prisoners of Time." And I am pleased to report that we have taken up the cudgels of this commission. As a matter of fact, the deputy director is a parent in the Fairfax County Public Schools, and she has accepted the challenge to chair the one in Fairfax County. And I think everyone needs to put this topic on the agenda.

Let me conclude by saying that the local community really needs to commit itself to this. This is more than just an education issue. The 6-hour, 180-day year, as Milt Goldberg has suggested even today, needs to be relegated to the museums, an exhibit from our educational past. But all of our leaders, particularly our legislative leaders as well, must recognize that we are dealing with firmly-entrenched societal traditions and cultural customs, to say nothing of commercial interests.

For example, in Virginia, in our code, which is the law, the legislature has said that no school will open until after Labor Day, and it was about 6 or 7 years ago that that law was passed. And that was strongly supported by the tourist industry, and of course, we, not too facetiously in education, call it the "King's Dominion Financial Assistance Act." But it has sent a clear message that the tourist industry has more impact on legislatures than the education establishment because we used to start school the last week of August. But then again, Congress has changed its schedule also and now even works in August.

I think we just need to look at everyone's responsibility and the impact of time.

I would like to thank you, Senator, for sponsoring and initiating this kind of discussion. I think first and foremost, the findings will be focusing on higher academic achievement for all students, and I am pleased to be here today to support the findings and conclusions of this commission.

Thank you.

[The prepared statement of Mr. Spillane may be found in the appendix.]

Senator BINGAMAN. Thank you very much.

Donna Hardy, we are very pleased to have you, from New Stanley Elementary School in Kansas City. Please go ahead.

Ms. HARDY. Thank you, Senator Bingaman.

I would like to share first just a little information about New Stanley and how we restructured time.

The New Stanley School of Kansas City, KS is an inner city school. It is a neighborhood elementary school. It is a very old building. It was built in 1913. There are about 380 students, 81 percent of whom receive free and reduced lunch. The student population is about 7 percent Asian, 27 percent Hispanic, 33 percent African American, 33 percent Anglo, with about 33 staff members.

In 1989, our superintendent, who was at that time Dr. David Lusk, instructed a team to apply for an RJR Nabisco grant. This was the beginning of a process that ended in March of 1990, when we received a \$750,000 grant. Over 1,000 schools applied for the grant, and 15 schools were selected; three of those schools were fully funded, and New Stanley was one of the three. The funds were awarded over a 3-year period.

The New Stanley program is based on high expectations for all of our students, expanded opportunities for all to succeed, continued growth for students and staff. And the background of our program is the effective schools movement, efficacy institute training by Dr. Jeff Howard at Harvard University, and the Comer Model of School Governance by James Comer at Yale University.

Some of the features of the New Stanley program include team teaching, where teams of three teachers are responsible for the instruction of all the students on that grade level. The teachers have the responsibility and the freedom to group and to regroup in ways that best meet the needs of all of their students. The teachers have common planning time so they can collaborate to provide the best instruction for the students.

Another feature is that teams of teachers followed students for a 2- to 3-year cycle. For example, kindergarten teachers began with a group of kindergarten and taught them 1st and 2nd grade. Another team of teachers took the students from 3rd to 4th and to 5th grade. This gives teachers the opportunity to get to know their students very well and to get to know the parents.

Students and teachers do not have to get acquainted or reacquainted at the end of the year, and when they come back, they are ready to study.

We have implementation of site-based, share decisionmaking through the Comer Model, in which parents and communities become an integral part of that school team.

We used outcomes-based education, which gives teachers focused views on what is most important for students to learn and to give students expanded opportunities to master the significant learning.

We use a lot of extensive technology to manage information and to prepare students to use the tools of the 21st century.

We have multiple means of assessment to expand how we look at student progress beyond just these standardized test scores, which includes portfolio assessment, self-evaluation, kid-watching, audio and video tapes, and we are into action research.

The whole staff receives efficacy training to better understand how to work with students to ensure that all of our students can learn and be successful.

We implemented an extended day care where working parents can bring their children at 7 in the morning, and they are there

until 5:30 in the afternoon. We offer breakfast and hot lunch program.

I feel that the biggest change at New Stanley was time. the changes we made with time were the amount of time teachers and students spent at school and what they did while they were there.

When we talk about time at New Stanley, it is not a simple task. We increased student days from 180 to 203 days. Our teacher duty days increased from 187 to 219. Our school year began in mid-August and ended in mid-July the next year. Our school year was divided into four 10-week quarters, with a one-week student break separating each quarter.

This is the 5th year of New Stanley. The grant was for 3 years. The grant paid for the additional time teachers spent working with our students. Remember, the grant was 3 years and nonrenewable.

Our district felt that what was happening at New Stanley was very significant. The efficacy training, the Comer Model, and the outcomes-based education became a part of the district's 5-year strategic plan. The extended year did not.

We believed very strongly in what was happening at New Stanley. By the end of the 4th year, we got a new superintendent, Dr. James Hensley. Dr. Hensley felt that New Stanley was doing some important things for education in Kansas City, KS. He felt that the 3 months' vacation each summer did not benefit students. He encouraged us to look at how we could restructure our school year using 180 days. We maintained all of the components of our program.

The school year now begins the first of August. There is a 2-week intercession in October which provides intensive reading and math attention, plus opportunities to use skills around a special theme. We will service 150 students with a 1-to-15 student-teacher ratio. The teachers will focus on reading and math schools.

The second intercession will run the first 2 weeks in March. All staff members and students who do not participate in the intercessions have vacation time.

New Stanley will observe the same holidays as the rest of our district. The month of July is all school vacation. We extended our school day by 15 minutes each day, and we continue to use 2 hours each Wednesday for staff development time.

In restructuring New Stanley, we changed how we teach, what we teach, how we feel about students, and how students feel about themselves. If we want our students to be the best, we must provide time to develop our teachers.

New Stanley chose the four one-week sessions between quarters for record preparation, parent conferences, yes, and home visitations, team planning, and for the development of staff. During staff development time, we have worked on developing staff in everything from using developmentally appropriate practices to alternative assessment to teaching English as a second language. We increased the amount of time and the quality of time that we spend teaching and learning.

I too support this report on "Prisoners of Time." The report states that, "As a people, we fail to acknowledge that a Nation's economic power often depends on the strength of its educational system." The strongest message that this commission can send to

the American people is that education must become a new national obsession, as powerful as sports and entertainment, if we are to avoid a spiral of economic and social decline.

Thank you, Senator.

[The prepared statement of Ms. Hardy may be found in the appendix.]

Senator BINGAMAN. Thank you very much.

Next, Anna Marie Ulibarri, principal of Emerson Elementary School in Albuquerque.

Ms. ULIBARRI. I appreciate the opportunity, Senator.

I would like to share some of the different types of programs that we have at Emerson, also highlighting not only what we are doing, but how we are going about working with our families and children.

"People are lost. Coming in contact with school has made us feel like part of the world." This quote came from an Emerson parent—a parent who, like so many parents, want for their children to be prepared, productive, and responsible members of society. Yet this parent also captured the reality that many families who live in the Emerson district experience.

This reality includes violence, poverty, and often a sense of hopelessness. Emerson Elementary lies in the southeast quadrant of Albuquerque. This area is unfortunately a site for a great deal of violence, drug dealing and prostitution.

Our children are very aware and concerned over what occurs in their neighborhood. Many of them have, at a very early age, developed coping strategies which perhaps we as adults have not yet had to deal with. The realities which our children face are realities which schools cannot neglect.

If in fact we are to say that we have goals for all children, as outlined in "Goals 2000," then schools must work differently, and schools must look different.

Emerson Elementary is the 8th largest elementary school in a district that has 80 elementary schools. We have a student population of 736 students K through 5, with an additional 70 children who attend early intervention programs beginning at age 3 through 5. Eighty-nine percent of our children who qualify for free or reduced lunch and a mobility rate of 94 percent. Two hundred twenty of our students are limited English proficiency, many of them arriving in the United States for the first time. Fifty-six percent of our children are Hispanic, 15 percent Native American, 5 percent Asian, 4 percent African American, and 20 percent Anglo.

Emerson Elementary has a history of providing innovative programs for the children and families it serves. We have a strong relationship with the University of New Mexico. This collaboration has included Emerson establishing a focus as a professional development school. This means that we have a teacher training program on site and have had for the last 3 years. It also means that the types of structures we have and how instruction is provided for our children have changed, especially over the last 3 years. Because we have so many different programs at Emerson, it would be very easy for us to fragment the type of learning that occurs, so instead, we now have teachers working in teams, ESL teachers working with bilingual teachers and Chapter 1 teachers, so that we

are not pulling children out of their regular classroom setting, but these professionals are working together.

Ultimately, what this all means is that we are lifelong learners who constantly review and evaluate our processes and programs. This is a positive reflection on the staff members who work at Emerson. We are also a pilot site for the Human Services Collaborative, fully recognizing that as schools we cannot possibly begin to meet all of the many needs that our children come with; but in fact, we have social agencies and our school working together as team members to address the needs expressed by our community in the areas of violence prevention, mental health and physical health. We have on site a social worker, a nurse practitioner, members of YBI, which is a gang intervention program providing after-school opportunities for our children; income support workers from the State to provide services after school to our families; parenting classes offered weekly; an onsite coordinator for the Human Services Collaborative program which we have funded through our school budget; a before and after-school program which begins a 7 o'clock in the morning and closes at 6 o'clock in the evening; and university students who serve as mentors and positive role models for our children. We will also begin after-school clubs with a focus on fine arts, sports, and social skills development. These clubs will also be in session during part of the summer to offer safe alternatives for our children.

Emerson was a year-around multitrack school. Before adopting this type of calendar, the staff spent a year evaluating the pros and cons of such a calendar, and in talking with parents to receive input from them.

We successfully implemented this schedule for 3 years. We worked to ensure strong communication with our families and were offering safe alternatives during vacation periods on our school site; 2-week periods for half-day sessions, we offered at \$1 per child.

We also felt that the year-around calendar offered consistency in the lives of children who desperately need consistency. Children transition back into a school schedule easily after a 3-week break, with little if any need for review of material or expectations. It also gave staff members a flexibility that does not exist with a traditional calendar. Staff members could exchange days; it gave them opportunities for staff development. They could also then serve as substitute teachers in our building. Teachers also found that there was less burnout because of the more frequent breaks during the school year.

In May of 1993, shortly after the commission visited Emerson, we were directed by our school board to hold a vote concerning year-around education. Although we had surveyed our community yearly to request feedback on this type of scheduling, and the feedback did seem to support this work, our community voted to return to a traditional schedule.

We have worked in a positive manner to respond to the direction given to us by our community and school board. We ended our 1993-94 school year as a year-around school and began on August 15th on a traditional schedule.

Although the use of an innovative calendar is not an alternative which we presently have in place at Emerson, we do continue to

build on the many programs which we have, and we feel we offer our children daily opportunities to succeed. Our vision for Emerson will continue to be that all of our students will be prepared, productive, and responsible citizens of the future.

[The prepared statement of Ms. Ulibarri may be found in the appendix.]

Senator BINGAMAN. Thank you very much.

Mr. Spillane, let me ask you, how many days of instruction do you provide for students in the Fairfax school district?

Mr. SPILLANE. Right now, 183, Senator.

Senator BINGAMAN. What discretion do you have as the superintendent, or the school board there at the district level, to change that, as you see it? I know you have this law that says you cannot start before Labor Day, but could you extend the school year into June if you decided to do that?

Mr. SPILLANE. Yes, we could. We actually have a 193-day school year, but we set those other 10 days aside for teacher training because we believe that is extremely important. The quality of the work force, teaching staff, is part of the quality of time and what this report addresses as well.

Senator BINGAMAN. And you said that one of the complaints that was raised when you talked about additional time for teaching was concerns of teachers about lost planning time; is that right?

Mr. SPILLANE. That is correct. That pretty much single-handedly defeated the elementary school extension of the day. Actually, we close a half-day on Monday every week, and we wanted to have a full-day week. The half-day on Monday is used for planning time, administrative time for teachers, meetings with parents, and other activities, in-service education activities as well. We felt that those functions could take place at other times—after school, or on other days during the school year—but that was not to be. There was a very strong coalition of parents and teachers against that.

Senator BINGAMAN. But that did not carry the day as regards the high school.

Mr. SPILLANE. No, the high school did not. As a matter of fact, I am proud to say that one of our 23 high schools has really an 8-period day, and that is the Thomas Jefferson High School for Science and Technology, and that is the number one high school in the United States, this year having achieve 113 Merit Semifinalists in that school alone.

Senator BINGAMAN. That is an impressive accomplishment, no question. They have the same number of school days, but they have eight sessions each day?

Mr. SPILLANE. Eight periods, which is actually an additional 40 minutes beyond even our 7-period day.

Senator BINGAMAN. So when do they start and when do they finish?

Mr. SPILLANE. They will start at 7:30 in the morning and finish some time around 4, plus they have activity periods as well. So basically, school is going on somewhere between 7 o'clock in the morning and 4 o'clock in the afternoon.

I must also say, Senator, in terms of time, we are also proud of our dropout rate in terms of the way it is going, even with the increased diversity in our population, particularly limited-English-

speaking youngsters coming in from Central and South America. In 1985, our dropout rate was 2.8 percent. Today, it is 1.6 percent. And the reason for that is that we have encouraged youngsters rather than drop out, to go into our adult education program, and our adult education programs will then assume a lot of the characteristics of high school courses. Therefore, we literally have 80,000 people in our adult education programs, and the whole diversity from English as a second language to—

Senator JEFFORDS. How many was that—80,000?

Mr. SPILLANE. Eighty thousand. We have 140,000 students in our school system; we are in the 10th largest in the Nation. So 80,000 in the adult education program, which includes several thousand young people getting a high school diploma, which does two things. Our dropout rate in and of itself is not what we are looking for, but it is certainly a manifestation that youngsters will finish courses. Some youngsters, particularly poor youngsters, need to work, want to work, have to work, and that is okay with us. That is a parental and a student decision. But even in terms of time, I think time for schools has been restricted to the typical school day, and I think we just need to keep our schools open more often, including in the evening, and I think that that is a time factor that does not really add anything. It is not any more costly to run a night program for youngsters as compared to a day program.

Senator BINGAMAN. Now, the 80,000 people you have in adult education, that is also operated under your school district.

Mr. SPILLANE. That is correct, Senator.

Senator BINGAMAN. You have a 2-year community college system that the school district operates.

Mr. SPILLANE. Yes, we do—and I must say, an excellent one also, Senator.

Senator BINGAMAN. Great. Thank you very much.

Let me ask Donna Hardy a couple of questions now, and also Anna Marie, and then I will defer to Senator Jeffords.

You have a substantial numbers of days that teachers come, but students do not. I think you said that you have 203 days of school, but you have 219 teacher days. Is that right?

Ms. HARDY. When we first started, we were on 10 weeks on, 1 week off, so the students would go for 10 weeks, and they would be off 1 week, and that was the time when the teachers did their staff development and training. That happened until this year. This year, we have a one-track, 60/20, and we are using the 20 as intercession. So now, the teachers will not have 219; they will have I think it is 207, and the children will have a total of 200. They will have the 180 days, plus we have 20 days for intercession, so that will give an additional 20 days for at least 150 of our students to come, because we truly feel that there are some students who just need more time with learning. So those kids will come back in October and in March.

Senator BINGAMAN. How many elementary schools are there in your district?

Ms. HARDY. Thirty-two.

Senator BINGAMAN. And you have gone to this schedule of starting August 1st.

Ms. HARDY. Right.

Senator BINGAMAN. Has there been any suggestion that that should expand or spread to the other elementary schools in the district?

Ms. HARDY. We have at the present time several schools that are asking to start next year, and we are encouraging our district and our board to let that happen. At the present time, our whole district has taken at least three components from the pilot that we had with the project, and they are already letting teachers follow kids. There are a lot of things that as far as money issues are not a problem, so our district is now doing that. The James Comer process and the efficacy training for teachers are happening throughout our district K through 12.

The year-around model is the one thing that is very slow to happen, and you know why; it is because of the big money issue. This was the first year we started with the intercession, so our superintendent being new suggested that we pilot that for a year before he started letting other schools do that. But we do feel that that would be something that all of the schools that are chapter schools especially can do, because we are using our chapter funds to budget our intercessions.

Senator BINGAMAN. So you do not see any problem in the way Chapter 1 is now operating that would keep that from happening?

Ms. HARDY. At the present time, I am considered a schoolwide chapter project, and right now, we are getting more and more of those schoolwide projects in our district. I think Kansas City, KS is one of the districts with the most schoolwide projects of any district. And all of those schoolwide projects will have the same flexibility that we have, yes.

Senator BINGAMAN. Thank you.

Let me ask Anna Marie a question now. The big debate in Albuquerque, of course, has been whether we would go with the traditional school year or with the year-around school year, but there has not been much public debate about the number of days of instruction.

What is your cut on that? How many days of instruction do you provide at Emerson, and do you think it is adequate?

Ms. ULIBARRI. Right now, we are providing 180 days, as does everyone else, because even on the year-around model that we were on, it was still a 60/15 model, so the number of days did not increase. What was different, of course, was the amount of time that children were away from school at any given time.

I do support many of the findings in the report, because children do need more time, and I gave you many reasons why, including children who have limited English proficiency, children who come from homes and neighborhoods that are not safe. We need to provide them with different kinds of alternatives. And I am talking about academics; I am not really talking about our being the social agencies, but giving them that additional time for the academics. To me, it is very important.

What we have done is restructured how we plan with one another. We are also a schoolwide Chapter 1 site, so we use some of that money in terms of team meetings for teachers, so that that planning time, that staff development time that is so essential, is available. Some of the money we have received from the university,

we also use not only for a schoolwide focus, which this year has been the development of social skills for our children, but also to allow for individual interests of teachers at our school.

But I think that very definitely we need to think in broader terms. We need to be allowed to take some risks in these areas, and we need to recognize that not all communities are alike, that there are communities that need a different type of structure.

Senator BINGAMAN. Let me now defer to Senator Jeffords.

OPENING STATEMENT OF SENATOR JEFFORDS

Senator JEFFORDS. Thank you, Mr. Chairman. I want to commend you for this hearing.

This is probably one of the most critical areas for us to examine if this Nation is going to meet "Goals 2000" and if we are going to proceed into the next century with the kind of work force and personnel and people in this country that we need to prosper.

I have a "one percent for education" proposal which is trying to help deal with some of these, that is, to increase the Federal expenditures one percent per year of the total Federal budget—that is \$15 billion a year—until we are an equal partner with the local governments and the States to help provide education.

One of the areas where the prognostication is that the greatest increase in expense would be to go to a 220 or even 240-day school year, as some countries have. The costs that have been attributed to those changes are rather dramatic—about \$36 billion a year nationwide for each 20 days. You can multiply that out and get a pretty high figure. And another one, for extending the school year by an hour, or maybe two, I think, would be about \$10 billion a year.

With all of the pressures we have on school budgets, I am interested in your reflections on what has happened to you in those areas where you have been demonstrating as to the necessary increase in budgets to accommodate the increase in the length of times.

Mr. Spillane?

Mr. SPILLANE. The 7-period day, or adding an additional 50 minutes to the day for the high schools, came at a time when the economy was a little stronger than it is showing right now. We have a \$1 billion per year budget, but that was about \$100 million.

Senator JEFFORDS. So about a 10 percent increase.

Mr. SPILLANE. About a 10 percent increase in that particular area. But that added, as I recall, almost 275 to 300 teachers to the high school. It did not cause additional work load. I think in some cases—I am not about to publicly proclaim that we need to have teachers spend more time without additional salaries—but I think there is some tradeoff there, too. I do not think that adding an hour a day should subsequently divide salaries and add that percentage on; I just do not think that is reasonable. And I think it is something that I as a superintendent would work with our teachers—well, we have 23,000 employees, so everyone's lives would be affected by it. But there are some tradeoffs on that, and I would not doubt that some people would be willing to go the extra mile themselves because I think we do have a lot of people committed to quality education, and I think we have a lot of people who

understand that we are falling far behind. Even in Fairfax County, where we brag about ourselves a lot, and we are very pleased with ourselves, and unfortunately, too many occasions, that is where we compare ourselves with cities our size in a number of other places in the United States with students in our numbers. But when we compare ourselves internationally, we have a lot to be ashamed about, and that is a dose of reality for us.

Senator JEFFORDS. That is a critical point, because that is what we have a tendency to do, is compare ourselves within this country. But when you look at a study with Taiwanese high school students, where they have an extra 40 days a year, they end up 2 years ahead of our students in math and other subjects, which about equates to the additional length of the school day. So we do have to wonder whether we had better start comparing ourselves especially with other international comparisons of 13-year-olds and so on, which show that we are either last or next-to-the-last in math and science, probably two of the most critical elements in measuring prosperity.

What about the length of the school year? Can you give me any idea what the cost implications have been in those programs?

Ms. HARDY. Our teachers attended school for 219 to 225 days, and our students from 203 to 205 days. When we received the RJR Nabisco funds, we received \$250,000 a year for 3 years, and all of that money went toward teacher salaries. So it is very expensive.

Senator JEFFORDS. How much of an increase, and what is your total teachers' salaries, including that? Is there some way that I can measure what kind of percentage increase that was? If you do not have that, but you could get that for me, I would appreciate knowing that, because this is very critical.

Ms. HARDY. Yes, I can get that. But the other issues was that even with our chapter funds, being flexible with schoolwide, being able to not have big classes and lower the teacher-pupil ratio, being able to do those kinds of things with chapter funds, has been helpful in that we were schoolwide; so that was an important issue, too, with budget.

Senator JEFFORDS. Ms. Ulibarri?

Ms. ULIBARRI. In Albuquerque, we have had to look at special programs, especially in the areas of special education, so that those students were provided with the necessary services. So contracts did have to be extended for those particular experts, but not for regular classroom teachers, because they then had a 3-week period off as well.

What was required at our particular site in terms of returning to a traditional schedule was the fact that we had to bring in an additional four double portable buildings at a cost of \$75,000 each, in order to accommodate the additional children that we would have on our campus.

Ms. HARDY. I also think another important issue is not just looking at the number of days kids attend school being the restructuring movement; I really feel that we must realize that we have got to learn to do some things differently with what we have, also. One of the main things—and I know that this report supports it—and one of the things that we support highly at New Stanley is giving

time for teachers to be developed and retrained to do things differently. It takes time to do that, and it takes money, and we have to really educate all of us to accept the fact that it is important to take that time for teachers, and it is not wasted time if we say we need time for teachers.

Senator JEFFORDS. Thank you.

Again, Mr. Chairman, as you know, we have a rather important ESEA conference that we are starting on, and I have another committee hearing to go to, also. But I want to commend you again. This is an area of great interest to me, and I think the future of our Nation depends upon the decisions we make in this area.

What I am mainly concerned about is that when we ask people to plan for the "Goals 2000," if your only option is to plan on the basis of your present funding levels, you can come up with one set of plans; but if we asked you if we increased the funds by 50 percent, how would you plan, I think you might come up with some different ideas, such as fully funding special education, which this Congress should do, and things like that, so that you are not limited in your dreams by the present, rather severe fiscal situation in the Nation. So that is my goal, but it looks like you are well on your way toward solving some of our problems and helping us in our thinking, and I appreciate that.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much.

We have one more panel, so I think we will dismiss you folks now and proceed to the next panel.

Thank you all very much for being here. It has been very useful testimony.

Our final panel is made up of Iris Carl, who is the past president of the National Council of Teachers of Mathematics, from Houston; Norman Higgins, who is a commission member and principal of the Piscataquis Community High School in Guilford, ME; and Paul Lehman, professor and senior associate dean of the School of Music at the University of Michigan in Ann Arbor.

Thank you all very much for being here, and Iris, why don't you go ahead first?

STATEMENTS OF IRIS M. CARL, PAST PRESIDENT, NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS, HOUSTON, TX; NORMAN HIGGINS, COMMISSION MEMBER AND PRINCIPAL, PISCATAQUIS COMMUNITY HIGH SCHOOL, GUILFORD, ME; AND PAUL R. LEHMAN, PROFESSOR AND SENIOR ASSOCIATE DEAN, SCHOOL OF MUSIC, UNIVERSITY OF MICHIGAN, ANN ARBOR, MI

Ms. CARL. Good morning, Senator, and thank you very much for the invitation to be here.

Today I would like to share with you two issues that have been crucial and critical to the NCTM and the work that we have been doing to improve the mathematics education of our Nation's students and their teachers, and that is the ways in which we help teachers get smarter about what they do and the way in which we involve other communities to make sure that some of these changes occur.

We know that the millions of students who are currently in our schools today need to know more mathematics to be effective citizens than any other generation has needed, and when they graduate from school, we are finding that this is not the case.

Our Nation faces a crucial test when we begin to compete with international competitors, and we find that our partners have been more interested and more involved and more committed to education than we have recently been. And if we are to help our teachers and our students, whose destinies depend on mathematical literacy, we really must provide more time for them to learn what they need to know and be able to do.

The NCTM has produced groundbreaking standards in 1989 and then again in 1991, in the standards for curriculum and evaluation, and then for professional teaching standards for school mathematics. This work has been based on studies and research that we and others have developed, working with the international communities.

We find that the mathematics that our diverse student population needs to know and be able to do is high and rigorous, and we have found that how we change teaching makes the difference for that to be realized in this complex information society in which we live.

Right now, there is a serious mismatch between what our children are able to accomplish and what they are being taught. We know that they are capable of learning much more, but each year, over 300,000 juniors and seniors in high school prepare for graduation, and when they graduate, only half of them have accomplished or mastered an 8th grade mathematics education, and less than 10 percent have completed a 12th grade mathematics education.

What these students have failed to learn in large measure is what we have never taught them. We find that in the traditional high school, 40 percent of the students fail to enroll in enough or the right mathematics. This is either by choice or by assignment. We find also that the real world outside of classrooms requires students to know significantly more mathematics than ever before. Business and industry inform us that 75 percent of the entry-level positions for students coming to the work force from high school require some proficiency in algebra, geometry and technology.

We know from research that there are 28 distinct careers that are closed to college freshmen who enter with less than 3 years of mathematics.

Math is leading in the effort to eliminate the inequities in curriculum and practice. We find that the fact that we as a nation are the only highly industrialized Nation that spends 8 years teaching arithmetic, followed by 2 years of algebra and then by a year of geometry hobbles our students.

We realize, too, from the SIMS study, which is the second international study where our youngsters were 13th and 15th out of the 15 nations involved—even behind some Third World nations—that the students in an exit interview showed on their questionnaires that they had not had an opportunity to study the topics in calculus and trig and in Algebra II and other higher math subjects that the other students in foreign countries knew full well and were able to show their proficiency in.

We know, too, from research and practice that the work that is being done in our schools is not sufficient, but that the children can achieve if given the opportunity.

We learned, too, that students who are exposed to complex mathematics problems early in their schooling build an appreciation for mathematics and are more successful.

We know, too, that each year there are 3.5 million 5-year-olds who enter our schools, and with only their socioeconomic data, they are preassigned to the lower track for failure. It is as if we are saying that a youngster on free or reduced lunch, or a youngster who speaks a language other than English in his or her home cannot learn. This is one of the areas that we see as a barrier. That gap in accomplishments and achievements in education begins here.

We know, too, that this barrier is also there as we move them through very inflexible tracks, and in these tracks, we change what we teach and how we teach, so we are down to the minimums for the youngsters. We have a minimum mathematics for the many and a mathematics that leads to algebra for the few.

We know from a study conducted by the Chief State School Officers that a year after the NCTM Standards for Curriculum and Evaluation were released that 40 of our 50 States had already begun to revise their curriculum frameworks to align them with the NCTM standards.

We know, too, that half of those States are presently engaged in changing their assessments so that they will begin to focus on what we recommend as a vision for change.

We know that schools and districts that adopt the standards can count on positive change in the way that mathematics is taught, and there will be a deemphasis on the memorization and the rote drill and practice and the move away from paper and pencil tasks to a math that is doing math, a hands-on math; students will be immersed in the elements of mathematical reasoning and depend on understanding relationships and concepts. In other words, what we are asking is that our children should be able to make sense of the mathematics they are being taught.

As president of the NCTM, I visited several sites, more than 100 classrooms, with extended visits, to be sure that the vision that we foresee as the role for teachers and their students in the schools was being implemented, and if so, how were they going about it. We found in Fairdale, KY that there was a school where they had not only youngsters to whom they were giving a double dose of mathematics in great blocks, allowing youngsters who had fallen behind in the middle school to take pre-algebra and algebra at the same time, or pre-calculus and calculus at the same time; and they also had programs for youngsters who were parents, so that in their study hall, they were being taught parenting skills which would allow them to make a difference for their children at home as well as to find ways in which they could be more successful in their schooling.

In Baltimore, I visited the Northeast Middle School, where it was told to me that youngsters enter from elementary school two grade levels or more below their assigned grade in mathematics. I complimented them on the work that the principal had done there with

her teachers in allowing them to grow in their knowledge of mathematics and the way in which she organized her school in houses so that each grade had its own wing and its own core of teachers who knew them well, and that they moved with from their grades and throughout their class work. And on complimenting one of the youngsters in the school, he turned to me and said, "Ms. Carl, when we leave here, every high school in Baltimore wants us." That is what we want to have happen for all of our children.

The kind of mathematics that these teaching standards advocate is that we are going to move away from teachers telling to teachers facilitating and allowing children to work together in groups or in pairs or as a whole class or alone, to verify their answers and know the logic of the evidence that they present. We want them to be able to reason and move away from the memorization.

We also want to be sure that they are problem solvers; whether the problems are regular or nonroutine, we want to be sure that our youngsters know how to tackle them.

We find, too, that we need to have an opportunity in our classes for our youngsters to communicate mathematically, so there should be some discussion in the classes that we see today that will show that the children see the scenario or can make the connection between what they are learning in mathematics with other subjects as well as in real life.

We as teachers have to get smarter. We need to know more math and learn more strategies and techniques for making a difference for our most diverse student population. What it will take is professional development. The kinds of curriculum and instructional changes in the standards require this if we are to change how children learn or the amount that they can learn, and how we go about teaching them.

We need to include technology in this because we cannot prepare our youngsters for a technological society with it being in schools. We need to know as a society that half of all the math we know today has been invented since World War II.

Our teachers today are in their mid-40s, which means the majority of them went through courses in their preparation that did not include much of what is required of them today. Their knowledge of students as learners of mathematics is critically important. We find that teachers who admit first graders have no idea that youngsters in first grade, as well as throughout the grades, are surrogate parents at home and know more about money and how to budget than we give them credit for. We dismiss what they bring and impose a rigid mathematics on them that does not seem feasible and that they cannot understand or appreciate.

If we are to accomplish the NCTM goals, then time will be needed for teachers to learn the rich content that they need to know and learn how to integrate the theory and practice and incorporate alternative strategies if we are going to make math and children becoming mathematically literate a priority.

The shift in our schools needs to be from schools in isolation to schools in partnership and collaboration with the greater community. We need to be sure that in our schools, we recruit qualified

teachers and that we promote the beginning and experienced teachers having adequate resources and equipment. And time should be given, as well as funding, to support teaching and learning.

The establishment of outreach activities with parents and leaders of the greater business and other communities needs to be there to help us build the support. We find that the colleges and universities as well as their educators and administrators need to be part of this equation that will make the difference for us; that they should spend time in school to know who we are and who our children and teachers are. We need to make sure that we are collaborating with them in the design of pre-service and in-service education programs, so that those programs will be upgraded to meet the needs of our schools. If they are to provide the leadership, then there must be the ongoing research that involves us in our schools.

And if I may cite just one recent study that is being conducted, the University of New York is conducting research in Harlem schools, looking for gifted children in the lower tracks. In the first 100 students interviewed, they found five gifted 5-year-olds. One that I would like to tell you about was a little girl who had taught herself a sophisticated way to compute, so that she knew how to add, subtract, multiply and divide in her own way. She had also taught herself to read. And when the teacher of the kindergarten class was informed about what this little girl had accomplished, the teacher admitted that she thought that the little girl sitting in the rocking chair in the back of the room, turning the pages in the book, with a circle of her classmates around her was just prattling and amusing her classmates. Only later did she discover that this youngster had read half of the books that the teacher planned to read to the class that semester.

Youngsters are ready and willing if we are prepared to meet their needs. In mathematics, I think we and the greater community selectively can make no better investment than in our children and the Nation's future by equipping them and their teachers with competence at using the most powerful tool they will ever learn—mathematics. Only when students gain the kind of confidence that we see occurring as we visit classrooms and as teachers report to us in the council will there be the changes that should occur not only in mathematics, but in the sciences and in language arts and will we then achieve the world-class levels that we are seeking.

By working together, we can develop measures of progress in reaching the Nation's goals in schools nationwide, regardless of children's background, their race, or even the size of the local tax base.

The NCTM and the mathematics community support this work and the report, "Prisoners of Time," and we stand ready to push for its full consideration. The research shows that the average elementary teacher touches the lives of over 1,000 youngsters, and for secondary teachers, that number grows to 3,000. For teachers who are the educators in our colleges and universities, preparing future teachers, that number jumps to 300,000. The impact on schools and education that could result in the improvement of the envisioned goals for standards is there, and the NCTM and the mathematics community stand at your side to help.

Thank you.

[The prepared statement of Ms. Carl may be found in the appendix.]

Senator BINGAMAN. Thank you very much.

Mr. Higgins, please go right ahead. If you could summarize, we are about out of time, unfortunately.

Mr. HIGGINS. Thank you, Senator, for first of all allowing me to go on the third panel because I was not able to get here earlier this morning. As a practitioner, I had a school board meeting last night, and tomorrow, a homecoming. So I was not sure if I should address you this morning regarding my role as a member of Maine's Common Core of Learning, looking at standards early in Maine back in the late 1800s, or as a member of a task force on learning results, or as a commission member on the National Report on "Prisoners of Time," or maybe as a practitioner. So my comments, I think, reflect a little bit of all of those, and I will try to be brief.

I think the issue that we found when we started addressing the relationship between time and learning is that the central issue is learning and not time, while time plays a major role in how successful we will be at achieving our national standards.

So the real question that we asked as a commission is: What should students know and be able to do, and then how do we use time to accomplish those goals?

The first recommendation of the national commission revolves around academic standards. In fact, I think we said we should reinvent schools around learning and not time. If standards are set and learning is constant, then we have to take a good look at the issue of time. One of the things that I have said numerous times in the last 2 years is that if we want to provide equal opportunities for students in our schools, we have to provide inequitable amounts of time, unequal amounts of time, for students to be able to achieve those same standards.

Let me give you an example of my own school, Piscataquis Community High School, in rural, disadvantaged northwestern Maine. It is a school that had historically, for 25 years, had ingrained expectations for low aspirations—20 to 30 percent of students went on to school; ingrained expectations for low performance—the school consistently was in the bottom 10 to 15 percent of the schools academically on whatever criterion you wanted to use, and in particular using our comprehensive Maine assessment tests.

In 1991, we made a decision that we would change what we expected students to know. Before standards seemed to be a real topic in the country, it just seemed to us it made common sense that we should expect the same things of all students. So we began a massive restructuring of our curriculum, and we eliminated all programs of study. There is no college preparatory, or vocational, or general, or any program of study in our school. There is just a core. All students take a core. All students study physics. All students study algebra and geometry and chemistry and Shakespeare and technology. They all have the same curriculum.

I reported to our school board last night that for the second consecutive year, our academic test scores are in the top 15 percent in the State of Maine, which is a dramatic turnaround. Our 3-year average is in the top 20 percent in the State of Maine. Our boys

had the highest scale score in the State in mathematics, and our girls were not far behind.

Our strength was in the ability of our students to apply knowledge, not just be able to respond to multiple choice questions. Their strength was in writing and in explaining what they knew and how to use it.

Seventy to 75 percent of our students now attend postsecondary schools. And while everybody said if you increase standards, the dropout rate would go up, our dropout rate went down; it is 1.5 percent and declining rapidly. High expectations do not drive students from schools. High expectations keep students in school.

I do have some concerns about the time implications regarding standards. The first is that I am concerned that we have a decentralized process by which standards are being established, and I am concerned that we are going to have the "dreamed curriculum" in seven to eleven or more standard areas.

Standards will require more time, first of all, because there are areas that are being incorporated into the national goals, like fine arts, which I am sure Paul will talk about, and in foreign language. That takes time. If we increase our expectations, it takes time. Students will need more time to master world-class standards, especially if our goal is to set world-class standards.

My second concern is the issue of making sure we reclaim the academic day. One of the things I did not mention on how we accomplished our goals was that we established a workman-like day. We have no home rooms, no activity periods, no pullout time. Classes are 85 minutes in length, and we have four of them per day, with a 30-minute lunch. It kind of sounds like going to work, doesn't it? Shouldn't that really be what school is all about?

So I am concerned that we use the time that we present have. Approximately 3 hours of the current day is used for academic, and the rest is used for a host of other things. Our commission recommended 5.5 hours per day as a minimum for core academic instruction, and we know that will have serious implications in each and every school.

The third concern—and I think Iris talked about this in much more detail than I will—is that standards require us to make a time investment in teachers. For example, it will take time for teachers to digest and prioritize and design curricula on the standards. It will take time to design new learning environments, particularly if we believe students need to learn differently, and time needs to be doled out, rather than by the clock, by the needs of students. If we are going to use technology, which I know is one of your great interests, it will take time, and new performance assessments will take time.

Last week, I addressed a group, and I said the answer is simple—and it is in this case—we simply need to lengthen the school year and reconfigure the school year. It is the doing that is difficult; that is the difficult path.

I will conclude with this. We fall into a trap, and that is that there seems to be a false dilemma. There is a debate as to whether we should have better utilization or additional time. My experience, having served on this national commission for the past 2 years, is that the facts are obvious to me, and I think to the commission—

we need more time, not to do more of the same, but to use all time in new and different ways.

Thank you.

[The prepared statement of Mr. Higgins may be found in the appendix.]

Senator BINGAMAN. Thank you very much.

Mr. Lehman, please go right ahead.

Mr. LEHMAN. I think it is very fitting, Senator, that we should find ourselves so short of time at this point because it exemplifies so clearly the central subject of this hearing.

I would just like to say that in my opinion, this document, "Prisoners of Time," is the most important publication in the education reform movement since "A Nation at Risk" 11 years ago. That is because it addresses such a fundamental issue, and it offers such practical and such well-conceived recommendations.

I would say on behalf of the arts that anything that the Congress and the Federal Government can do to encourage States and districts to implement these recommendations will serve the interests of arts education very well indeed.

Thus far, the education reform movement has not been good to the arts. On balance, it has been damaging. In the elementary schools, we have found pressures for higher test scores in reading and math have led some teachers and administrators to reduce time spent on the arts—not that it is not important to have more time for reading and math, but it is also important to have adequate time for the arts; it is important, probably, to have more time for everything.

In the secondary schools, there have been increases in high school graduation requirements, and that has had the net effect of making it more difficult for students to elect courses in the arts, particularly in schools where they have not increased the number of periods in the day.

Mr. Spillane spoke of his district, Fairfax County, and the Thomas Jefferson High School being one of the top schools in the Nation by most criteria. If I am not mistaken, it is also one of the top schools in the Nation with respect to its music program. I heard its orchestra a year or two ago, and it is a superb orchestra, and this would not have been possible if they had had a 6-period day. In fact, they have an 8-period day, and there is a direct link between the way we utilize time and the way we organize the day and the breadth and comprehensiveness of the curriculum.

Let me get right to what we propose the Congress can do. In my written testimony, I offer a couple of general suggestions and three specific suggestions, and I will be very brief here and invite your attention to that written testimony.

First, I would propose that any Federal funding for education or for schools be contingent upon States and districts adopting and implementing the national voluntary standards in the disciplines that are specified in "Goals 2000." Now, you can deliberate about what form that will take, how it will be done, and what implementing them means exactly, on an operational basis, but the principle seems a sound one, and in fact, if we are serious about education reform, it is hard to see how we could do otherwise.

Second, I would hope that in the future, any more Federal programs or projects or legislation or policies that specify certain basic disciplines of curricula also specify the arts. We have suffered heavily, starting with the National Defense Education Act, in being overlooked in this regard, and I hope that that era is behind us now.

I would also propose a National Commission on the Role of the Arts in Education. I think that would be a timely and appropriate follow-up to the National Education Commission on Time and Learning. One can ask why we need a commission on the role of the arts rather than on the role of English or science or any other discipline, and I think the answer has to do with the uniquely precarious position of the arts in schools, and the recency with which they have been recognized as being among the basics.

English and science are not at risk in the curriculum, but the arts definitely are at risk in many schools all across the Nation. I would also point to the importance of American culture and the key role of the arts in preserving and protecting that culture. The arts provide cohesion to the curriculum; they cut across boundaries, they provide a basis for interdisciplinary learning, and they keep kids in school. All of us who have been teachers have known kids who came to school only because of their participation in the arts. So often, only in the arts are their talents appreciated and their opinions recognized and their contributions valued.

Further, the arts bring humanness into our lives. When kids are participating in the arts, they are not taking drugs, they are not shooting one another, they are not engaging in all of the destructive behaviors that so dominate our headlines every day.

I propose a national advisory commission on implementation of the national content standards. It seems fairly clear that when we get the content standards developed in the various disciplines, it is going to require perhaps 150 percent of the school day to implement them, and perhaps 200 percent of the school budget. Who is going to reconcile all of these standards with one another? Who is going to reconcile them with the ultimate realities of the clock and the budget? That requires a high-level group, a group with stature, a group that is broadly knowledgeable, and a group that can address the basic issues such as time and cost and how to deal with interdisciplinary relationships.

Third, I would propose a national showcase for arts education to make the public and educational decisionmakers aware of what kids are learning. I recently heard about a band open house one evening, where one parent said to another on the way out: "I did not know that kids were actually learning things in band; I thought they just played." Well, this is an obsolete attitude that we want to abolish. There is indeed a curriculum in the arts; there are things to be learned, and there are specific skills and knowledge that go well beyond just warm, fuzzy feelings, and we want people be aware of that. This could be done in conjunction with a White House conference on the arts, and the tie-ins with funding by foundations and corporations, which are innumerable.

Because we are short of time, Senator, I will close there. I appreciate the opportunity to be here today, and I want to thank the Congress and the administration for explicitly including the arts in

the "Goals 2000" legislation. This has been very important, and it will continue to be so.

[The prepared statement of Mr. Lehman may be found in the appendix.]

Senator BINGAMAN. Well, thank you very much, and I thank all three of you. I think this is very useful testimony.

I do have to adjourn the hearing now and get on to the conference, but I appreciate it very much. I think it has been useful, and I think the commission has done an excellent job.

Thank you.

The subcommittee is adjourned.

[The appendix follows.]

APPENDIX

PREPARED STATEMENT OF MILTON GOLDBERG

Thank you, for the opportunity to discuss "Prisoners of Time," the report of the National Education Commission on Time and learning. I am Milt Goldberg, and on behalf of the Commission I want to thank Senator Bingaman for his primary role in creating the Commission and his continued support and participation during the past two years.

Two years of hard work have brought us to this event today. In 1991, Congress mandated the selection of a panel to study the relationship between time and learning, and the National Education Commission on Time and learning was born.

When our report, "Prisoners of Time" was released in May, copies were sent to all members of Congress, in addition to business leaders, state legislators, and every school district in the country. I am pleased to report that the response to the report has been overwhelmingly positive. More than 2000 articles about the report have appeared in newspapers and magazines, in this country and even abroad. Various states and local school districts are using the report as a template to study their own time allocations.

During our research, the Commission conducted public hearings throughout the nation to gather information and perspectives related to our charge. We met with more than 150 educators, parents, students and researchers, and studied 19 school and education programs on-site. We worked with school officials in Japan and Germany to complete two fact-finding visits in those countries. We also reviewed and talked about volumes of education research on time and learning.

We have seen a nation working hard for over a decade to address the many problems that plague our schools. I worked with a similar commission in 1983; its report, "A Nation at Risk," called for and inspired work toward significant change in many areas.

However, the recommendations of that earlier report regarding time went unheeded: The profound implications of the way we use time in schools were hardly explored or even understood by the nation. We continue, despite all our efforts, to be prisoners of time. Today, the education reform movement moves forward, toward an important set of tangible, attainable National Goals.

But, in the midst of laudable reform efforts in schoolhouses across our nation, we have learned that unless we provide the time needed for learning and use that time well, the education reform movement may be doomed.

Goals 2000 Educate America Act offers the nation a precedent-shattering blueprint for educational improvement, and I feel our report "Prisoners of Time" supports Goals 2000. Secretary Riley himself recently said at the National Press Club, that he urged "educators to give special attention to the recent report of the National Commission on Time and Learning called 'Prisoners of Time,' which speaks directly to how time is being taken away from academics during the American school day." He continued by saying, "We will not be able to be first in anything—math or science or any other subject for that matter—if only 41 percent of the school day is given over to the core academic subjects."

The missing link in the education reform movement is time. If the United States is to meet the National Education Goals, we must break the shackles of time in our schools.

Today, students in our schools are caught in a time trap. Our usage of time virtually assures the failure of many students.

Schools of the future must make learning the priority—a clear and fixed goal. Time is a key resource. It must be valued. It must not be wasted. The challenge is not to come up with some magical number of days the schools should be open each year or some magical number of hours schools should be open each day. The critical issue is how much time students and teachers need if we are to achieve our national education goals. In many cases—in many communities—that means more time.

Education research and simple observations demonstrate that children learn at different rates and in different ways. Yet we allocate time as if all children were alike.

In the past years, it has become evident that the more schools try to be equitable in allocating time, the more unfair the consequences. Providing equal time for students who need more time guarantees unequal results.

If we truly want to give every student equal opportunity to meet high academic standards, we must understand that some students will require unequal amounts of time. Those that need more time to learn must be accommodated, while also attending to the unique needs of the advanced and average students.

Finally, the Commission recognized that, over the last generation, American life has changed profoundly. Many of our children are in deep trouble.

The family structure has changed. Our work force is different. Society is more diverse. Income inequality is growing. Technology looms as a growing challenge, just as it provides us with enormous opportunity. Anxiety about crime is a daily concern in many communities. In these communities, when children are not with their families, the school is the best place to be.

Our schools cannot ignore these problems because they touch the lives of each and every one of our children. Schools should remain open to serve as centers for services that may be provided by other community agencies.

But, as we point out from page one through the final page of our report, learning must be the bottom line. The 6-hour, 180-day school year should be relegated to museums—an exhibit from our education past. As our report concludes, "American students will have their best chance at success when they are no longer serving time, but when time is serving them.

Thank you, I would be happy to respond to your questions.

PREPARED STATEMENT OF ANNA MARIE ULIBARRI

"People are lost. Coming in contact with school has made us feel like part of the world."

This quote came from an Emerson parent. A parent who like so many parents, want for their children to be prepared, productive and responsible members of society.

Yet, this parent also captured the reality that many families who live in the Emerson area experience. This reality includes violence, poverty and a sense of hopelessness. Emerson Elementary lies in the southeast quadrant of Albuquerque. This area is unfortunately a site for a great deal of violence, drug dealing and prostitution. Our children are very aware and concerned over what occurs in their neighborhood. Many of them at a very early age have developed coping strategies which perhaps even as adults, many of us have not had to consider. The realities which our children face are realities which schools cannot neglect. The types of programs which we offer must recognize that in order to have common goals our children as outlined in Goals 2000, schools must work differently, schools must look differently.

Emerson is the 8th largest elementary school in a district that has 80 elementary schools. We have a student population of 736 K-5, with an additional 70 children in 2 early intervention programs for children for 3-5 years of age. We also have 89% of our children who qualify for free or reduced lunch and a mobility rate of 94%. Over 220 of our KS students are of Limited English Proficiency. Many of our students and their families are recent arrivals in the United States. We have 56% of our children who are Hispanic, 15% Native American, 5% Asian, 4% African American and 20% Anglo.

Emerson Elementary has a history of providing innovative programs for the children and families it serves. Emerson has had a strong relationship with the University of New Mexico. This collaboration has included Emerson establishing a focus as a Professional Development School. This has resulted in a teacher training program on our campus for the last three years. Ultimately, what this means is that we are lifelong learners who constantly review and evaluate our processes and programs. This is a positive reflection on the staff members who work at Emerson. We are also a pilot site for the Human Services Collaborative. The Collaborative allows for social agencies and our school to work as team members to meet the needs expressed by the community in the areas of violence prevention, mental health and physical health. We have on our site a social worker, a nurse practitioner, members of YDI (a gang intervention program) providing after school opportunities, income support workers from the state to provide services after school to our families, parenting classes offered weekly, an on-site coordinator for the Human Services Collaborative funded through our school budget, a before and after school program which begins at 7:00 a.m. and closes at 6:00 pm. and university students who serve as mentors and positive role models for our children. We will also begin after school clubs with a focus on fine arts, sports and social skills development. These clubs will also be in session during part of the summer to offer safe alternatives for our children.

Emerson was a year round multi-track school. Before adopting this type of calendar, the staff spent a year evaluating the pros and cons of such a calendar and in talking with parents to gain their input. We successfully implemented this schedule for three years. We worked to insure strong communication with our families and were offering safe alternatives during the vacation periods on our school site for minimal cost. We also felt that the year round calendar offered consistency in

the lives of children who desperately need consistency. Children transitioned back into a school schedule after a three week break easily with little if any need for review of material or expectations. It also gave staff members a flexibility that does not exist with a traditional calendar. Staff members could exchange days with one another and serve as substitute teachers while on break. Teachers also found that there was less burnout because of the more frequent breaks during the school year.

In May 1993, shortly after the Commission visited Emerson, we were directed by our school board to hold a vote concerning year round education. Although we had surveyed our community yearly to request feedback on our year round schedule and had found the feedback to support this type of schedule, our community voted to return to a traditional schedule.

We have worked in a positive manner to respond to the direction given by our community and school board. We ended our 1993-94 school year as a year round school on June 30, 1994 and began on a traditional schedule on August 15, 1994.

Although the use of an innovative calendar is not an alternative which we presently have in place at Emerson, we continue to build on the many programs which we feel offer our children daily opportunity to succeed. Our vision for Emerson will continue to be that all students will be prepared, productive and responsible citizens of the future.

PREPARED STATEMENT OF IRIS CARL

Mr. Chairman and members of the Subcommittee on Education, Arts and Humanities, I wish to thank you and the members of the National Education Commission on Time and Learning for this invitation to appear today and bring testimony in support of their report, *Prisoners of Time*.

I am Iris Carl, past president of the National Council of Teachers of Mathematics (NCTM). The NCTM is the largest professional mathematics education organization in the nation with over 100,000 members and 250 affiliated councils. My experience as a public school educator includes being a teacher, a supervisor, and an administrator of mathematics programs kindergarten through senior high school in Houston Texas. At the university level, I have taught graduate courses in the department of curriculum and instruction designed to upgrade the pedagogical and content knowledge and skills of teachers of mathematics.

Today, I wish to share with you an issue that has been of critical importance to the NCTM: the need to improve the mathematics education of our nation's students and their teachers. The millions of students currently enrolled in our schools need to know more mathematics to be effective citizens than any other generation that has graduated. Our nation faces crucial tests ahead as we compete on an international level with trading partners who value education more than we have. If we are to help teachers teach more mathematics to students whose destinies depend on mathematical literacy we must provide the time.

The NCTM has introduced groundbreaking standards for school mathematics as a coherent, holistic vision designed to inform and support local reform initiatives. The Curriculum and Evaluation Standards for School Mathematics and Professional Standards for Teaching Mathematics were developed to ensure that our increasingly diverse and disadvantaged student population possess a suitable and sufficient mathematics background to face a future characterized by complex information and technology.

What exists today is a serious mismatch between what our students are capable of learning and what they are being taught. Each year, only half of the high school graduates leave with an eighth grade mathematics education and less than ten percent have completed a secondary program for average and above average students. What these students have failed to learn is, in large measure, what we have failed to teach them. In traditional high schools 40 percent of the students fail to enroll in enough—or the right—mathematics courses, by choice or assignment, to prepare for the workforce or college. The real world outside the classroom requires that students know significantly more mathematics than ever before. Business and industry tell us that three-quarters of new jobs for students entering the workforce from high school require proficiency in algebra, geometry and the use of technology.

Mathematics educators are leading efforts to eliminate inequities in the curriculum and in practice. The United States is the only highly industrialized nation that teacher eight years of arithmetic. This practice hobbles our best and brightest students as well as those who have been the least successful. It leaves little room in the elementary and middle school for the inclusion of topics that build a solid foundation for secondary mathematics topics. Research and practical experience of the nation's mathematics teachers indicate that students who are exposed to complex mathematical problems at earlier ages are more interested in mathematics and

achieve at higher levels than young people who learn mathematics through more traditional rote methods. The Standards move practice away from early sorting and inflexible tracking that have been barriers to quality programs. Setting high standards for all students and providing them with access, opportunity and time to learn challenging, relevant subject matter are positive steps needed to "fix" the system.

To this end more than forty states have revised or are revising their curriculum frameworks to align them with the NCTM Standards and half of them have embarked on the revision of state assessments. Their focus is on the four overarching goals to promote student self-confidence in mathematics. Schools and districts that adopt the Standards can count on positive change in the way mathematics is taught. There will be a deemphasis on rote memorization of math facts and paper and pencil tasks that often accompany them. Instead students will be immersed in the elements of mathematical reason, which depend on understanding relationships and concepts. The repeated emphasis on "what has the student learned how to do?" not "what information has the student internalized?" call for a departure from 45 minutes of mathematics daily to bold blocks of time for instruction with extensions into the student's world beyond the classroom.

The kind of mathematics teaching advocated by the NCTM Standards reflect a students ability to use mathematics in meaningful ways to connect mathematical ideas to other fields and to use mathematical knowledge and reasoning in offering solutions to open-ended questions. The Standards recommend that the teachers have students: Work together in groups, as a class or alone; Verify answers using logic and evidence rather than relying on the teacher as the only authority; Develop reasoning skills instead of memorizing formulas; Emphasize problem solving rather than rote answers; Understand how mathematics is used in everyday life rather than seeing skills as isolated concepts; Discuss what the answers mean by using real world scenarios; or projects that involve hands-on materials.

The kinds of curricular and instructional changes the Standards evoke for learning and teaching require an earnest commitment to professional development. Technological advances in the last half-century have dramatically changed mathematics. Half of all the mathematics we know today was invented since World War II. Teachers knowledge of mathematics and mathematical pedagogy is essential to improving student achievement. Their knowledge of students as learners of mathematics is as important to reflective practice as their personal attitudes, beliefs and dispositions are to the learning environment. If we are to accomplish the NCTM goals time for teachers to learn new and rich content, how to integrate theory and practice and incorporate alternative strategies must become a major priority and not an after school, one day or a week's activity with little or no follow-up.

The school administrators and school board members should take an active role in supporting teachers of mathematics by accepting responsibility for understanding the goals for mathematics education of all students and the needs of teachers of mathematics in realizing these goals in their classrooms. They should recruit qualified teachers, provide support for beginning and experienced teachers and adequate resources, equipment, time and funding to support teaching a learning. The establishment of outreach activities with parents, leaders in business and industry and others in the community to build support for quality mathematics programs must be a part of this equation.

College and university administrators and mathematics education faculty represent principal partners and collaborators needed to support the teaching and learning of mathematics as envisioned in the Standards. They should spend time in schools working with teachers and students, collaborate with schools and teachers in the design of preservice and continuing education programs, and provide leadership in conducting and interpreting mathematics education research.

Collectively we can make no better investment in our children's and the nation's future than equipping them and their teachers with competence at using the most powerful thinking tool they will ever learn—mathematics. Only when students gain confidence in their ability to use mathematics—or the sciences—or language arts—will they achieve at world class levels and reach their highest potential. By working together we can develop measures of progress in reaching the national goals in schools nationwide—regardless of race, background, or size of local tax base—that reflect the kind of learning students should master and make outstanding teaching practice the norm.

PREPARED STATEMENT OF NORMAN HIGGINS

PRISONERS OF TIME—IMPLICATIONS ON NATIONAL STANDARDS

PRIONERS OF TIME, the report by the National Education Commission on Time and Learning, stated that "the most important Part of the Commissions charge related to LEARNING, NOT TIME." The Commission recognized that the central question was not how much time is needed but what are we attempting to accomplish. What is it that we want students to know and be able to do?

The Commission's first recommendation is to REINVENT SCHOOLS AROUND LEARNING, NOT TIME. We recommended a common core of English and language arts, mathematics, science, civics, history, geography, the arts, and foreign language. The expectation that American students can meet world-class performance standards in these content areas has several implications for school-based practice.

FIRST: The decentralized process for developing standards is resulting in each discipline creating a "dreamed curriculum", without any serious attention to time priorities. In addition, the establishment of content standards in eleven (11) different disciplines dilutes the efforts to establish a "common core of learning." The implementation of the current and projected standards CANNOT be accomplished within current or projected TIME allocations. Again, WE FAIL TO ESTABLISH PRIORITIES FOR EITHER TIME OR LEARNING.

SECOND: "The Commission is convinced that if American students are to meet world-class standards ALL children will need more academic time. We recommend that schools provide additional time by reclaiming the school day for core academic instruction. We recommend that 5.5 hours a day be devoted to the "common core of learning."

Reclaiming the school day for academic purposes will provide additional time to meet new standards. Common sense, supported by research, indicates that we will need more time than currently present in our calendar or daily schedule if we are to achieve world-class standards. STANDARDS ARE NOT TIME FREE FOR STUDENTS.

THIRD: The implementation of standards will require a major commitment for the professional development of our educational workforce. Identifying essential core academic concepts, designing new learning environments for students, achieving the unfilled promise of technology, and creating new assessments to measure academic standards will require intensive amounts of TIME. The current work year for teachers needs to be lengthened and reconfigured. STANDARDS REQUIRE A TIME INVESTMENT IN TEACHERS.

The current debate over better utilization of time vs. additional time has created a false dilemma. The facts, are obvious. We need more TIME—not to do more of the same, but to use all time in new and different ways.

PREPARED STATEMENT OF R.L. WEHLING

I APPRECIATE THE OPPORTUNITY TO STRONGLY ENDORSE THE FINDINGS AND RECOMMENDATIONS OF THIS REPORT AND TO URGE CONGRESS TO FULLY SUPPORT THEM IN EVERY WAY POSSIBLE.

I SEE MANY ANALOGIES BETWEEN SUCCESSFUL BUSINESS PRACTICES AND WHAT THIS REPORT RECOMMENDS FOR OUR SCHOOLS

- IN MY OWN JOB, I MUST PRODUCE HIGH QUALITY WORK ON TIME, BUT I HAVE SUBSTANTIAL FLEXIBILITY WHICH ALLOWS ME TO DO THINGS LIKE ATTEND THIS HEARING. I HAVE ACCESS TO MY OFFICE, MY TECHNOLOGY, AND SUPPORT PERSONNEL 24 HOURS A DAY, 7 DAYS A WEEK. IT IS THIS FLEXIBILITY WHICH ENABLES ME TO COMBINE EDUCATION INTERESTS, CHILDREN'S ISSUES AND

COMMUNITY AFFAIRS WITH MY BASIC JOB RESPONSIBILITIES AND DEAL WITH EVERYTHING EFFECTIVELY.

I WOULD ADD THAT THERE ARE TWO CONDITIONS WHICH EXIST IN BUSINESS, BUT WHICH ARE NOT UNIVERSALLY PRESENT IN SCHOOL SYSTEMS WHICH ARE AN ESSENTIAL FOUNDATION UPON WHICH THE RECOMMENDATIONS IN THIS REPORT MUST BUILD.

THE FIRST LATES TO ATTENDANCE. IN THE WORKPLACE, EVERYONE IS EXPECTED TO BE AT WORK EVERY DAY ON TIME. REGARDLESS OF THE STRUCTURE OR LENGTH OF THE SCHOOL DAY AND SCHOOL YEAR, WE MUST FIND A WAY TO RE-INSTILL IN PARENTS AND STUDENTS THAT ATTENDANCE IS NOT OPTIONAL AND THAT 4 OUT OF 5 DAYS ISN'T GOOD ENOUGH.

SIMILARLY, IN BUSINESS, WE DEVOTE A SIGNIFICANT AMOUNT OF TIME TO THE CONTINUED TRAINING AND DEVELOPMENT OF OUR PEOPLE. WE BELIEVE THERE SIMPLY MUST BE A STRONGER COMMITMENT TO A SUSTAINING, HIGH QUALITY PROFESSIONAL DEVELOPMENT PROGRAM IN OUR SCHOOLS. AGAIN, THIS IS A PREREQUISITE FOR THE MANY FINE RECOMMENDATIONS IN PRISONERS OF TIME TO SUCCEED.

FINALLY, I'VE HEARD SOME CRITICS OF THIS REPORT SAY THAT IT WOULD BE TOO COSTLY TO ADD TO THE SCHOOL DAY, WEEK, OR YEAR.

I GO BACK TO HOW WE'D LOOK AT THIS WITHIN PROCTER & GAMBLE. IF WE BELIEVED THE DATA AND FINDINGS IN A REPORT LIKE THIS, THE VERY FIRST THING WE'D DO IS LOOK AT THE COST OF NOT IMPLEMENTING THE REPORT, BOTH SHORT TERM AND LONG TERM. IN THE CASE OF PRISONERS OF TIME, I BELIEVE THE COSTS OF INACTION ARE UNACCEPTABLE.

THEREFORE, I SUBMIT THAT WE MUST IMPLEMENT THESE RECOMMENDATIONS -- NOT SOME OF THEM, BUT ALL OF THEM. THE ONLY QUESTIONS ARE HOW LONG IT WILL TAKE; HOW

CREATIVE WE CAN BE; AND HOW MUCH WE CAN INVOLVE
PARENTS AND THE COMMUNITY IN MOVING FORWARD.

I WOULD URGE CONGRESS TO MONITOR IMPLEMENTATION ON AN ONGOING BASIS AND ASK THE DEPARTMENT OF EDUCATION AND GENERAL ACCOUNTING OFFICE FOR REPORTS OF PROGRESS ON AN ANNUAL BASIS FROM NOW UNTIL THE YEAR 2000.

PREPARED STATEMENT OF ROBERT R. SPILLANE

The report of the National Commission on Time and Learning, Prisoners of Time, evokes in me two feelings: belief and fear. I believe in the report's integrity and good sense, and I believe that if school districts throughout the country worked hard to implement its recommendations, we would achieve school improvements on an unprecedented scale. What I fear is that it will go the way of most reports. As a superintendent of schools for over 28 years, I have seen too many studies, commissions, and reports come and go without leaving a trace. A major report hits the news for a few weeks, people earnestly vow to act on it, and then the next report crowds into the headlines and education journals, and we forget what came before. And so it goes, year after year.

My hope is that we can break ourselves of the habit of diverting our attention, our energies, and our limited resources every few months or years, and that we will stay focused on the tough, clear, unyielding truths in this report. American students, on average, spend less time than students in other countries studying core academic subjects. While no one is foolish enough to think that "more" is necessarily better, more instructional time--quality instructional time--is an indispensable element of raising academic standards and achievement levels for all students. We are all proud of the extraordinary academic achievements of our brightest and most-motivated students, but the unique commitment of American education is the commitment to provide every student--regardless of race, creed, nationality, or socio-economic status--with an excellent, free public education that will enable each student to reach his or her highest potential. Mastering world class standards will require more time for most students.

In Fairfax County, we are gradually raising academic standards and expectations in various ways, and our achievement indicators are improving despite an increasingly diverse student population.

In other words, our teachers and students are successfully meeting these higher expectations. But, even in a high-achieving school system like Fairfax, the expectations have to be limited by what is realistically possible within the constraints of the fixed clock and calendar. Otherwise, we will frustrate both students and teachers. The curriculum has exploded in recent years and the demands on schools have increased dramatically. Something has to give. I would rather see more time than less learning.

We tried, in 1987, to increase instructional time for both elementary and secondary schools in Fairfax County. The result was a "split-decision." After a long and arduous effort by a task force, followed by considerable community debate, we added a 7th period to the school day at the secondary level--but lost a proposal to add two hours a week to the elementary schedule. We have indisputable evidence from course enrollment data of the academic advantages gained by middle and high school students. The elementary schedule remains unchanged because a coalition of elementary parents and teachers prevailed with the School Board. The arguments against extending instructional time are certain to be heard again and should be anticipated in other places.

The objections from teachers were loss of planning time in the daily schedule and increased work (teaching time) without increased salaries. The objections from parents were disruption of scheduled nonschool activities (private lessons and team practices) and excessive academic pressure on young children. We will be struggling with these issues again this year because we have formed another citizen task force--initiated by a School Board resolution and spurred on by the Prisoners of Time report. This time, task force members will have the advantage of the Commission's findings and recommendations, which validate our concerns, and I have high hopes that we will find creative ways to overcome many of the obstacles to change and to build community consensus.

While local communities must retain the prerogative of determining what their school calendars and clocks will be, district efforts to change would be easier if national and state leaders used their bully pulpits to proclaim the accuracy of the report's statement that "the 6-hour, 180-day school year should be relegated to museums--an exhibit from our education past." The past, in this case, is the 19th century, and we are about to enter the 21st. These leaders must recognize that we are dealing with a firmly-entrenched societal tradition and cultural custom (to say nothing of commercial interests) that must be confronted at all levels of government and by all levels of education.

Grassroots efforts alone cannot raise the national consciousness and mobilize the national will to change. Wherever those local efforts are being initiated, however, it might be mutually advantageous for the Department of Education to provide research support and to disseminate findings.

It is important to remember that the first, the foremost, and the primary finding that we would be looking for is this: higher academic achievement by all students. Many other secondary factors will surface for consideration, but the bottom line is to transform schools into places of limitless learning for both students and teachers. I personally believe that implementing the recommendations of the Prisoners of Time report will enable us to make long overdue changes in the conditions and status of teaching and to strengthen the teaching profession. If we want better schools, for all kids and not just a few, we must give more time for teachers to teach and for children to master core academic subjects.

PREPARED STATEMENT OF DONNA HARDY

New Stanley: How We Restructured Time

New Stanley is an inner city, neighborhood elementary school. The building was built in 1913. There are about 380 students. 81% of the students receive free or reduced lunch. The student population is about 7% Asian, 27% Hispanic, 33% African-American, and 33% Anglo. There are thirty-three staff members.

In 1989, Dr. David Lusk, the superintendent of our district at that time, put a letter on the desk of the director of staff development with instructions to apply for an RJR Nabisco Next Century Schools grant. This was the beginning of a process that ended in March of 1990 with a \$750,000 grant. Over 1,500 schools applied, fifteen were selected as finalist, and three were fully funded. New Stanley was one of the three fully funded programs. The funds were awarded over a three year period. The grant was non-renewable after the three year period.

The New Stanley program is based on high expectations for all students, expanded opportunities for success for all, continued growth for students and staff. The backbone of our program is the Effective Schools Movement, Efficacy Institute training by Dr. Jeff Howard at Harvard University, and the Comer Model of School Governance by Dr. James Comer at Yale University.

Some of the features of the New Stanley program were:

- Team teaching where teams of three teachers are responsible for the instruction of all the students on a grade level. The teachers have the responsibility and freedom to group and re-group in ways to best meet the

needs of all the students. The teachers have common planning periods so they can collaborate to provide the best instruction for the students.

- Teams of teachers followed students for a two or three year cycle. For example, Kindergarten teachers began with a group of students and taught them through second grade. Another team of teachers took the students from third grade through fifth grade. This gave teachers the opportunity to get to know their students and their parents well. Students and teachers did not have to get acquainted. Teachers knew where the students stopped at the end of the year and right where to begin.

- Implementation of site-based shared decision making through the Comer Model in which parents and community become an integral part of the school team.

- Outcome-Based Education gave teachers a focused view of what is most important for students to learn and to give students expanded opportunities to master significant learning.

- Extensive use of technology to manage information and to prepare students to use the tools of the twenty-first century.

- Multiple Means of Assessment to expand how we look at student progress beyond standardized test scores to include portfolio assessment, self-evaluation, kid-watching, audio/video tapes, and action research.

- The whole staff Efficacy training to better understand how to work with students to ensure that all students can learn and be successful.

- Extended day care (7:00 A.M. to 5:30 P.M.)

- Breakfast/Hot Lunch Program

I feel, the biggest change at New Stanley was time. The changes we made with time were the amount of time teachers and students spent at school and what we did when we were at school. When we talk about time at New Stanley, it not a simple issue. We increased student days from 180 days to 203 days. Our teachers' duty days increased from 187 to 219 days. Our school year began in mid-August and ended in mid-July the next year. Our school year was divided into four ten week quarters with one week student break separating each quarter.

This is year five of New Stanley. The grant was for three years. The grant paid for the additional time teachers spent working with our students. Remember, the grant was for three years and non-renewable. Our school district felt what was happening at New Stanley was significant. Efficacy training, the Comer Model, and Outcomes-Based Education became a part of the district's five year plan. The extended school year did not. We believed very strongly in what was happening at New Stanley. By the end of the fourth year of the grant, we had a new superintendent. Dr. James Hensley

James Hensley felt New Stanley was doing some important things for education in Kansas City, Kansas. He felt the three month vacations each summer did not benefit our students. He encouraged us to look at how we could restructure our school year using 180 student days. We maintained all the components of our program. The school year begins the first of

August. There is a two week intersession in October which provides intensive reading and math attention plus opportunities to use skills around a special theme. We will serve about 150 students with a 1-15 student-teacher ratio. The teachers will focus on reading and math skills. The second intersession runs the first two weeks in March. All staff members and students who do not participate in the intersessions have vacation time. New Stanley will observe the same holidays as the rest of our district. The month of July is all school vacation time. We extended our school day by fifteen minutes each day and we continue to use two hours each Wednesday for staff development time.

In restructuring New Stanley, we changed how we teach, what we teach, how we feel about students and how students feel about themselves. If we wanted our students to be the best, we must provide time to develop our teachers. New Stanley chose the four- one week sessions between quarters for record preparations, parent conferences, team planning, and for the development of staff. During staff development time we have worked on developing staff in everything from using developmentally appropriate practices to alternative forms of assessment to total staff endorsement in teaching English as a Second Language. We increased the amount of time and the quality of time spent teaching and learning.

PREPARED STATEMENT OF PAUL R. LEHMAN

I appreciate the opportunity to appear here this morning to speak on behalf of the arts and to represent the Consortium of National Arts Education Associations, the group that developed the National Standards for Arts Education.

Because there is very little time, I won't explain why we believe so strongly that every student at every level, K-12, should have access to a balanced, comprehensive, and sequential program of instruction in the arts taught by qualified teachers during the school day. We consider the five basics of the curriculum to be language arts, mathematics, natural sciences, social studies, and the arts, including music, visual arts, theater, and dance. We have been extremely gratified that all of the major participants in the education reform movement have shared that view, and I will assume that the members of the Committee do as well. We believe that 15% of every student's curriculum at every level should be devoted to the arts, a figure based on the recommendations of John Goodlad in his landmark book, *A Place Called School*.¹

I believe that *Prisoners of Time*, the report of the National Education Commission on Time and Learning, is the most important document in the education reform movement since *A Nation at Risk* in 1983. It addresses a fundamental problem and it offers constructive recommendations. It is based solidly on research, site visits, extensive deliberation, and broad consultation. And it wisely includes the arts within the core academic curriculum to be studied by every student. Any incentives that the federal government can provide to states and school districts to encourage them to implement the recommendations of the Commission will be very helpful to arts education.

The education reform movement has not been kind to the arts. Virtually all schools continue to offer music and the visual arts, but the amount of time devoted to each of those disciplines in the elementary school averaged only an hour a week or less in 1989, down by 15 to 20 minutes since 1962. There are no reliable figures on the amount of time devoted to theater or dance, but theater is available in only 16% of the elementary schools and dance in a mere 8%.²

What are the concerns of arts teachers regarding time? In the elementary school pressures for higher test scores in reading and math sometimes lead classroom teachers and principals to reduce still further the already scant time allocated to

the arts. This erosion reveals a glaring lack of commitment to balance in the curriculum. In the middle school some administrators believe that the arts disciplines can be compressed into six- to ten- week modules and included in a series of offerings to which students are "exposed" during the year. In fact, both research and experience have shown that intensive, concentrated practice doesn't work as well as slower, paced practice.⁸ In the high school the greatest single obstacle to an adequate arts program is the six-period day, which still exists in far too many schools. The problem of not having enough periods becomes even worse when the school increases its graduation requirements and thus makes it more difficult for students to elect the arts.

What can Congress and the federal government do to help in the implementation of the National Standards for Arts Education? We all recognize that most of the actions required to implement the standards must occur at the state or local levels. But any federal funding for education should be contingent upon states and districts adopting and implementing the national standards approved in the disciplines cited in the Goals 2000 Act. In addition:

1. Congress should establish a National Commission on the Role of the Arts in Education. This would be a logical follow-up to the National Education Commission on Time and Learning. Many of the problems of arts education are shared with other disciplines, but some are unique. That uniqueness, together with the recency with which the arts have been accepted among the basics of the curriculum, justifies the creation of the proposed Commission. The charge to the Commission would be to examine (1) the nature and characteristics of American culture, (2) the relationship between education and culture, (3) the threats and challenges facing American culture, (4) the usefulness of the arts in preserving and protecting American culture, (5) the place of arts education in improving the effectiveness of the American workforce, and (6) the role of the arts in education reform, including the ability of the arts to motivate students, keep them in school, and make schools more enjoyable places. The Commission would receive public testimony, make site visits, analyze data and research, and consult experts. It would then make recommendations.
2. Congress should establish a National Advisory Committee on the Implementation of Voluntary Content Standards. The Committee would be composed of the chair and one other member of each of the oversight committees supervising the standards projects in the disciplines cited in the Goals 2000 Act. Its charge would be to identify the major impediments to implementation and to recommend solutions. It is widely expected that the standards currently under development in the various disciplines collectively will require more time and more funds than are currently available in most schools. The Committee would seek ways to reconcile the national standards in the various disciplines with one another and with the ultimate constraints of the clock and the budget so that they can be world-class without being utterly unachievable. It would provide help for elementary teachers seeking to achieve the standards by emphasizing cross-disciplinary relationships. It would proceed by creating issues teams, each consisting of members of various disciplinary standards-writing committees and oversight committees, and each dealing with a specific issue such as costs, time and scheduling, equipment and technology, teacher education and professional development, cross-disciplinary relationships, and multiculturalism. It would ask each issues team to recommend strategies for dealing with that issue.
3. Congress should sponsor a National Showcase for Arts Education. This would be a day-long celebration held at the Kennedy Center and, linked by TV, at arts centers throughout America. It would showcase American culture while demonstrating the skills of the nation's elementary and secondary students in the performing arts and the visual arts. It would feature simultaneous performances by student musicians and dancers throughout the nation as well as selected, representative groups presenting dramatic scenes

or discussing their work in the visual arts. It would demonstrate America's preeminent position in arts education. It would feature large and small ensembles and soloists from all 50 states and would include original student works. It could be part of a White House Conference on Arts Education.

We are delighted that the Goals 2000 Act included the arts among the disciplines in which every young American should demonstrate competence and that the Department of Education and the two Endowments funded the development of the National Standards for Arts Education. Both actions were critically important to arts education. We urge that in the future Congress and the Executive Branch ensure that all educational policies and legislation applying to the other basic disciplines of the curriculum apply to the arts as well. This would include any project designed to achieve a national consensus, such as the standards project, as well as any program concerning any specific aspect of education such as teacher education; in-service professional development; research; testing; development of curricular materials; scholarships and loans; loan forgiveness; teacher, student, or school recognition or incentive programs; and so forth.

Arts educators need more time for teaching and more support if the national standards are to be achieved. There is currently a spectacular mismatch between the lofty objectives set forth in the standards and the meager resources available to many teachers. Time is the key. It's our most precious resource. It's a resource that is literally irreplaceable. It's the only resource that is allocated with absolute equality to every human being—and to every school.

Some say that there is not enough time in the school day to teach the arts and the other basics as well. That is simply not true. John Goodlad has carefully explained how, but anyone who doesn't accept his suggestions has only to look at the models offered by the many schools all across the nation, in every state, that have no trouble finding time for the arts. It is not necessary to choose between the arts and the other basics. That is a false dichotomy. A lack of will is masquerading as a lack of time.

The arts exalt the human spirit. They enhance the quality of life. They transform the human experience. They bring joy and pleasure to humans in every society and every culture. The arts are the chocolate chips in the cookie of life. Should access to the arts be reserved for an elite few? Or should the arts be available to all? I urge your careful consideration of the three specific suggestions offered here and your commitment to treat the arts on an equal footing with the other basic disciplines in all federal policies and legislation.

¹John Goodlad, *A Place Called School* (New York: McGraw-Hill, 1983), pp. 134, 286-7.

²Charles Leonhard, *The Status of Arts Education in American Public Schools* (Urbana, Illinois: University of Illinois, 1991), pp. 174, 176, 182.

³Richard Colwell, ed. *Handbook of Research on Music Teaching and Learning* (New York: Schirmer Books, 1992), s.v. "The Transfer of Music Learning," by Thomas Tunks.

PREPARED STATEMENT OF DENIS P. DOYLE

Mr. Chairman, members of the committee, it is a pleasure to appear before you today, one week before our service as members of the National Education Commission on Time and Learning comes to an end. I am pleased to report to you that our two and one half years of service have been productive and enlightening, and I know that my fellow commissioners share my enthusiasm for the work we were privileged to undertake — at your invitation.

May I also say that we are confident that our final report — Prisoners of Time — has made an important contribution to the national debate about education reform and renewal. At the time the Commission was created, most observers assumed that our principal concern would be the length of the school day and year. To be sure, those issues are important, but more important by far is "learning," and that became the focus of our deliberations. Indeed, we believe that our unique contribution to the national education debate has been to identify the missing puzzle piece: to make time a variable, not a constant.

Alexander W. Armitage

Historically — in the time of royal tutor, for example — time was a variable. Teaching one-on-one, students could take whatever time they needed to master the subject at hand. Just as we do as adults today. In fact most of what we learn outside of school is not time bound; we take the time we need to acquire mastery, whether it is a second language, a game like bridge or golf, or the intricacies of Roberts Rules of Order.

Only in the modern era — the era of mass education — has time become fixed: so many hours or days or weeks of study becomes the metric, not how much you learned. And as we all know, each of us learns at different rates at different times in our lives. The least we can expect of the modern school is that it reflect this simple truth.

To that end I would like to make four uncomplicated recommendations to this committee about the future of "time and learning," each reflecting a time-honored federal role:

- First, while it is appropriate that our service as commissioners comes to an end next week — we have done our job and it is time to move on — the work we began should not stop. The baton should be passed to the US Department of Education and future federal education policies should be carefully crafted with the issue of time in sharp focus. For example, the federal government should get its own house in order and make it clear that time can be a variable in its programs, most notably Chapter 1; local schools should be free to run

Chapter 1 programs after school or in the summer, not just as pull out programs. Uncle Sam must be part of the solution, not the problem;

- To further this approach, a vigorous public information campaign should be launched by the Secretary to spread the word and an electronic clearing house should be created to provide much needed information for practitioners;
- To give some bite to federal rhetoric, a USDoE grants program should be established to underwrite bold initiatives for new time and learning configurations; these grants should support demonstrations which will model new uses of time and learning rather than providing operating expenses (for which there will be no replacement funds at grants' end); and
- Finally, federal flexibility, the clearing house and a grants program should be materially strengthened with a vigorous technical assistance effort for states and localities intent on reconfiguring time and learning.

It is clear that we know enough to act; what is needed is vision, leadership and encouragement.

Let me close with an observation that emerged from our Commission experience. I was struck by the fact that the most dramatic and interesting examples of new uses of time and learning came from small schools and school districts who did it on their own. In the best American tradition they waited for no one, forged ahead, and set the pace for the nation. A short (and necessarily incomplete list of schools) public and private, makes the point: the Beacon Day School in Oakland CA; Mooresville NC; Murfreesboro TN; Buena Vista VA; Leadville CO; the Cornerstone School, Detroit MI; New Stanley in Kansas City; Piscataquis Community High School in Guilford ME. What did these schools have in common besides size? visionary leaders, men and women willing to take risks, to bend the rules,

cut red tape, and not take anything for granted. They are the unsung heroes of American education reform.

In closing, I would like to submit for the record the text of an article of mine on this subject -- Schools: It's About Time -- that ran in the January 16, 1994 Baltimore Sun.

Mr. Chairman and members, thank for the opportunity to appear before you today.

[Whereupon, at 11:13 a.m., the subcommittee was adjourned.]

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